



Jemtechnologies



User manual

# RSEC3NF / RSEC3NN

RadioBand 3 / RadioSens 3 System

EN

IMPORTANT SAFETY INSTRUCTIONS		3
1.	Introduction	4
1.1	General description	4
1.2	RadioBand3	5
1.3	RadioSens3	6
2.	Installation	8
2.1	Mechanical installation	8
2.2	RadioSens3 system restrictions	8
3.	Programming	9
3.1	Memorizing transmitter into receiver	9
3.1.1	Memorizing RS3	9
3.1.2	Memorizing RB3	10
3.2	System programming	11
4.	Checking and maintenance	12
4.1	Troubleshooting	12
4.2	CHECK function	12
4.3	Total RESET	14
4.4	Replacing a transmitter	14
4.5	Use of the system	14
5.	Technical Data Summary	15
5.1	Technical data	15
EU Declaration of conformity		16

## IMPORTANT SAFETY INSTRUCTIONS

Disconnect power supply whenever you proceed any installation or repair of the equipment.

In accordance with the European low voltage directive, the following requirements are informed:

- For permanently connected equipments, an easy-access connection device must be provided.
- This system must only be installed by qualified persons with experience in automatic doors/gates installations and with knowledge of the applicable EU standards.
- The instructions for use of this equipment must always remain in the possession of the user.
- RADIOBAND/RADIOSENS system's working frequency does not interfere with the 868 MHz remote control systems.
- **Follow all the recommendations given in this manual to prevent serious danger to people.**

More tips, interactive demos and online videos



RB3 system



RS3 system

## 1. Introduction

### 1.1 General description

RSEC3NF / RSEC3NN is a receiver that can support RadioBand3 system transmitters or RadioSens3 system transmitter. The type of system depends on the first transmitter programmed into the receiver.

Both systems complies with the EN ISO 13849-1:2015 standard, category 2, PLd. Certified by TÜV NORD CERT GmbH.

## 1.2 RadioBand3

The RadioBand3 system is designed for domestic, commercial and industrial door applications where a safety edge is used.

The system provides a wireless system replacing spiral cables or energy chain systems to provide the safety signal to the door or gate control panel.

The receiver continuously monitors the status of transmitters connected to it. The system performs a complete test of the equipment, including radio communication, every 7 seconds.

With the system you can support 8,2 KOhm safety edges and also optical low power systems. Additionally you can connect slack ropes and wicket doors in the 8k2 input. The signal will be transferred by radio.

When an obstacle is detected, the RadioBand system turns its output in a safety state, changing the state of the receiver output.

Up to three transmitters per output can be connected to the receiver. There are two outputs on each receiver that can be connected to the control panel as 8k2 or NC (normally closed) contact.

In order to comply with the EN 12978:2003+A1:2009 product standard and assure the correct operation of the system, it is mandatory to follow the instructions below, to avoid serious dangerous to persons.

Note: If the door cycle is smaller than 7s, the system must be used only in WORK mode.

### 1.3 RadioSens3


RadioSens3 system is designed for Fast doors and Flat-slat rolling shutters in an Industrial, Commercial or Residential environment. RadioSens3 is an impact detection system installed at the principal edge of the door. It works detecting any obstacle before the strength exceeds regulations limits and then inverting door movement.

RadioSens3 is a wireless system based on an RF transmitter and a receiver card plugged in the control panel which permanently monitors the status of the transmitter programmed.



#### MINIMUM REQUIREMENTS:

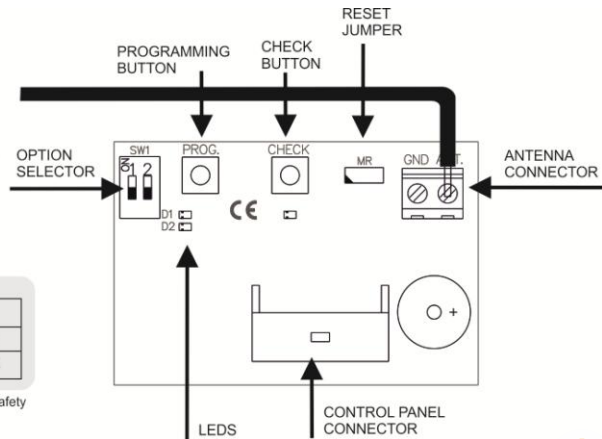
- Minimum speed at any point of the door: 0,1m/s
- Door Maximum width: 4 meters
- Maximum tolerance in door repetitive movements: 5%
- Minimum distance between the last 2 slats: 2mm
- RS3 installation in the central part of the last slat of the door


 Options and sensibility selectors must be set before programming. Any later change will have no effect, until the system and the manouvre of the door will be programmed again.

#### Only available in RB3 mode

OPTION	FUNCTION	ON	OFF
SW1:1	Interference *	7s	265ms
SW1:2	Operating mode	ON	WORK

\* Interference detector: The equipment is switched to safety state after 7s or 265ms.



 Working with RB3/RC3 transmitters: In order to comply with the EN 12978:2003+A1:2009 product standard and assure the correct operation of the system, it is mandatory to follow the instructions below, to avoid serious dangerous to persons.

Note: If the door cycle is smaller than 7s, the system must be used only in WORK mode.

## 2. Installation

### 2.1 Mechanical installation

Connect the receiver to the control panel.

### 2.2 RadioSens3 system restrictions

In order to detect obstacles, the RadioSens3 system compares the behaviour of the door in each maneuver with a previously learned one when installing the equipment.

Normal operation of the system will only be allowed after a satisfactory learning of door movement. The control panel will not allow the door to move if this learning has had errors or has not been done.

The RadioSens3 system has some conditions of use:

- The closing movement must start with the door fully open. It is not allowed to close the door from intermediate points.
- If the door is half open, only the opening movement is allowed.

In order to adapt the operation of the system to the irregular conditions of the floor, the equipment can be inhibited the lasts 4cm at the end of the travel of the door. **In the inhibition zone, obstacles will not be detected.**

Setting the inhibition point is optional. In case it is desired, it can be fixed in two ways: automatically or manually.

If the inhibition point is set automatically, put the transmitter switch SW1: 2 to ON. During the programming of the maneuver the equipment will automatically detect the ground and set the inhibition point automatically.

If the inhibition point is set manually, proceed as defined in the control panel manual.



### 3. Programming

#### 3.1 Memorizing transmitter into receiver

RS3 and RB3 systems are not compatible, so it cannot be stored and operated in the same receiver.

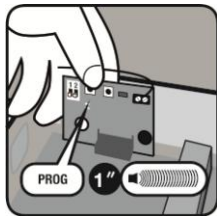


After storage the transmitter, perform the programming of the control panel with the safety element stored.

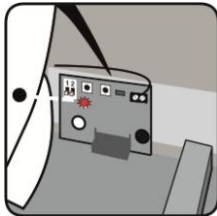
##### 3.1.1 Memorizing RS3

Receiver only keeps a RS3 transmitter in memory at the same time. This is stored always as security on closing.

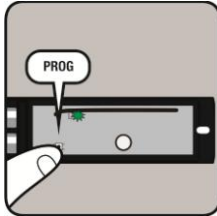
PRESS PROG PUSHBUTTON



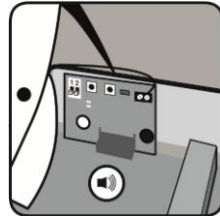
LED TURNS ON



PRESS PROG PUSHBUTTON



ONE BEEP AND PROGRAMMED



To exit programming mode, wait for 20 seconds or press PROG button on the receiver. Two beeps will be heard.



If you change the options selectors and the sensitivity after memorizing the safety devices, you must return to memorize these devices for the changes to take effect.



After storage the transmitter, perform the programming of the control panel with the safety element stored.

### 3.1.2 Memorizing RB3 / RC3

The receiver can memorize up to 6 transmitters RB3 / RC3 (3 for security on closing and 3 for security on opening). Before memorizing, place the options selectors in the desired position. Any subsequent changes will entail reprogramming.

Press the receiver PROG button and keep pressed until desired mode selected. Then follow the steps above.

Memorizing of one safety edge on the transmitter (IN1 input)

Mode	Configuration of transmitter memorizing in the receiver.	Led D1	Led D2
1	Safety edge activates relay 1 on the receiver	ON	OFF
2	Safety edge activates relay 2 on the receiver	OFF	ON
3	Safety edge activates the two relays 1 and 2 at the same time	ON	ON

Memorizing of two safety edges on the same transmitter (IN1 and IN2 input)

Mode	Configuration of transmitter memorizing in the receiver.	Led D1	Led D2
4	Safety edge in IN1 activates relay 1 and safety edge in IN2 activates relay 2 (with switch SW1: 2 to OFF, the IN2 input is not tested)	Flashing	Flashing

### 3.2 System programming

After storage of the transmitter, perform the programming of the control panel with the security element stored. See programming section on control panel user's manual.



If you change the position of RadioSens3 transmitter, you must perform the system programming again, otherwise the transmitter will indicate a safety error, and the door will not work properly.

## 4. Checking and maintenance

### 4.1 Troubleshooting

LEDs perform a flash every 5 seconds, indicating that the equipment has a good power supply.

Equipment	D1 red led	D2 green led	Check led	Beeps	Message / error	Solution
RSEC3	OFF	OFF	OFF	4 beeps every 20 seconds	RS3 transmitter low battery	Verify the batteries of the transmitter
RSEC3	OFF	OFF	OFF	4 beeps every 20 seconds	Communication failure between RSEC3 and RS3 transmitter.	Verify the radio signal with the Check function, and if the signal is weak, install a 868MHz antenna extension.












### 4.2 CHECK function

Ideal to know the radio coverage of the installation.

Press the receiver's CHECK button for at least 1 second to enter check mode. The indicator light will come on and four beeps will be heard.

Perform a complete door opening and closing manoeuvre. During the system check a beep will be heard every 1,5 seconds. If you have not heard any other acoustic signal at the end of the manoeuvre, the system works properly. If during the verification, the communication with a transmitter fails or the communication is poor, the receiver emits three consecutive beeps indicating that an error occurred.

Press all the safety edges installed to detect which one has failed.

	N° FLASHES CHECK LED	SIGNAL COVERAGE	RESULT OF CHECK
		Very weak	Safety edge failure
		Weak	Ok
		Normal	Ok
		Good	Ok
		Very good	Ok

Low signal coverage increases battery consumption.

If the communication fails:

- In case you work with RB3, stop the door manoeuvre and press the safety edges installed to detect what has failed.
- In case you work with RS3, stop the door manoeuvre and check in operating mode (outside the Check function) that the D2 green led indicates a coverage failure too.

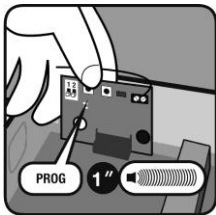
Perform another system check until the result is correct.

To exit Check mode, press the CHECK button or wait 5 minutes. On exiting check mode, seven consecutive beeps will be heard and the indicator light will flash continuously.

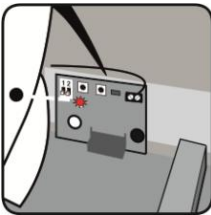
It is recommended to perform a CHECK function at the end of the installation process to ensure a proper system operation.

### 4.3 Total RESET

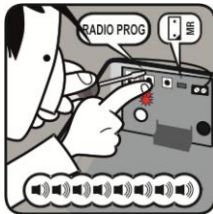
PRESS PROG PUSHBUTTON  
AND HOLD PRESSED



LED TURNS ON



BRIDGE MR



SEVERAL BEEPS & END RESET



To exit programming mode, wait for 20 seconds or press PROG button on the receiver. Two beeps will be heard.

### 4.4 Replacing a transmitter

If a transmitter becomes damaged the whole system must be reseted and replaced, and non-damaged transmitters must then be re-programmed into the receiver.

### 4.5 Use of the system

The system is designed to be installed as specified in the introduction. Other applications than specified are not guaranteed.

Manufacturer reserves the right to change the equipment specification without prior warning

## 5. Technical Data Summary

## 5.1 Technical data

	<b>RB3 SYSTEM</b>	<b>RS3 SYSTEM</b>
Frequency	Multifrequency system, auto-adjustable 868 MHz	Multifrequency system, auto-adjustable 868 MHz
Memory	6 transmitters (3 on closing, 3 on opening)	1 transmitter
Standby / Operating consumption	Max 90mA	Max 90mA
Radiated power	<1 mW	<1 mW
Size	82 x 190 x 40 mm	82 x 190 x 40 mm
Range (in open field)	50 m	50 m
Operating temperature	-20°C to +55°C	-20°C to +55°C
IP level required	The control panel must have at least an IP42 level for indoor use and an IP54 for outdoor use	The control panel must have at least an IP42 level for indoor use and an IP54 for outdoor use
Reaction time (typical)	35ms (+control panel polling interval)	18ms (max 48ms)
Maximum reaction time when interferences (SW1=OFF)	265ms	466ms

## EU Declaration of conformity

JCM TECHNOLOGIES, S.A. hereby declares that the product **RSEC3, RSEC3NF, RSEC3NN** complies with the relevant fundamental requirements of the RED Directive 2014/53/EU, as well as with the Machine Directive 2006/42/EC whenever its usage is foreseen; and with the 2011/65/EU RoHS Directive.

See website [www.jcm-tech.com/en/declarations](http://www.jcm-tech.com/en/declarations)

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In order to comply with the EN 12978:2003+A1:2009 product standard and assure the correct operation of the system, it is mandatory to follow the instructions below, to avoid serious dangerous to persons.

Note: If the door cycle is smaller than 7s, the system must be used only in WORK mode.

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